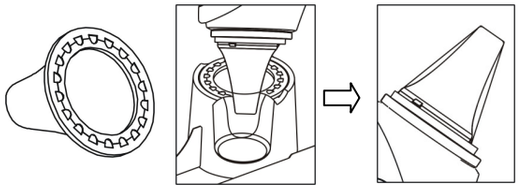
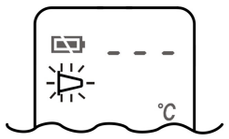
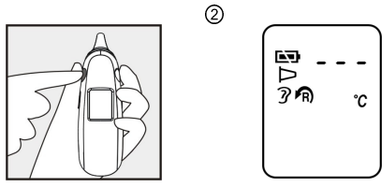
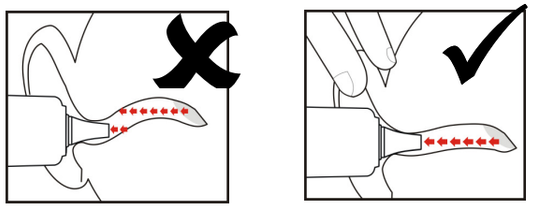
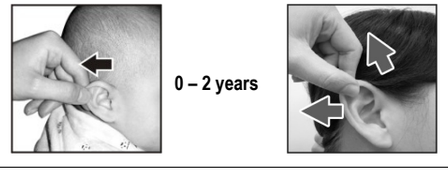
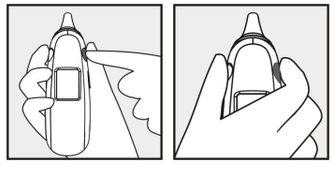
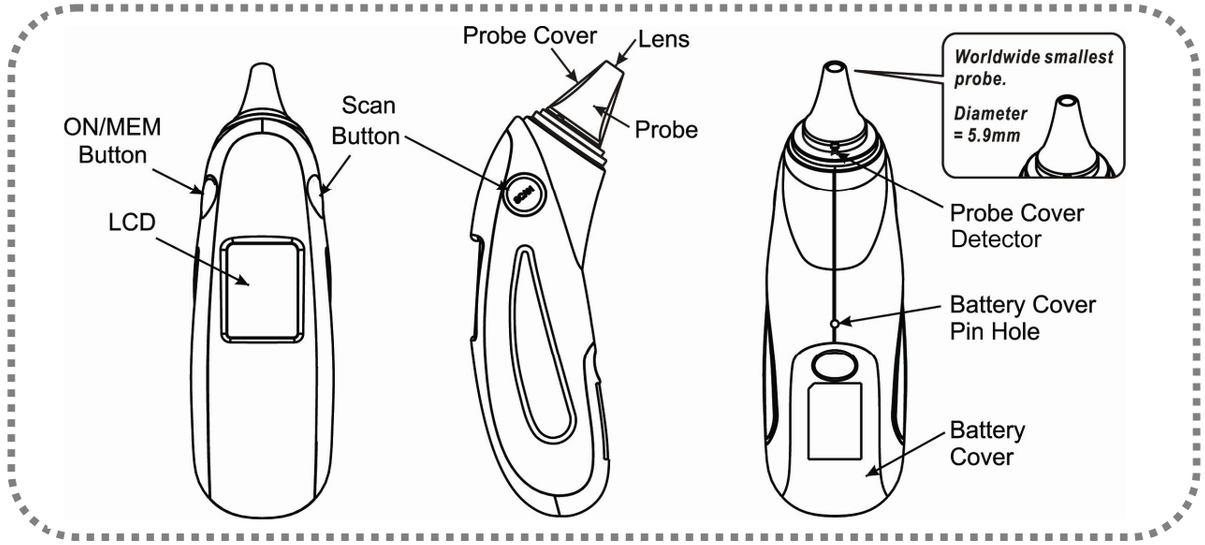
TH709L(E) Infrared Ear Thermometer Operating Instructions

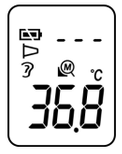
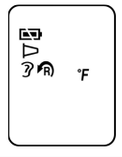
Operating Instructions

Temperature taking

Place the Probe Cover	 ⚠ **1. Proper installation of the probe cover ensures accurate measurements.** **2. Keep the probe covers away from children**	1. Place the probe cover on the probe cover fixer(inside of the storage box). Make sure to place the "**Adhesive Side**" of probe cover "**Upward**." Align the probe with the center of the probe cover. 2. Insert the probe into the probe cover fixer (in the storage box) until you feel a "click". That means the probe cover has been connected firmly.
		If the probe cover did not install well, ⊳ will flash on the LCD screen and can't take the ear temperature (will hear 4 beep sounds without reading shown on the LCD when measuring). Please check the setting of the probe cover again.
Power On	① ② 	① Press ⏻ "ON/MEM" button (on the left side) ② See the 👂 icon on the LCD and hear two beep sounds
Taking Ear Temperature		Gently pull the ear back to straighten the ear canal and snugly position the probe into the ear canal, aiming towards the membrane of the eardrum to obtain an accurate reading.
	 **0 – 2 years** **>2 years**	<For children under 2 years old> Pull the ear straight back. <For children over 2 years old and adults> Pull the ear straight up and back.
Measuring	 Press "Scan" button (on the right side)	Press the "Scan" button for 1 second until you hear a long beep sound. The measurement is completed. You can read the result from LCD. **Fever Alarm:** If the thermometer detects a body temperature ≧37.5°C (99.5°F), three short beep sound will follow one long beep sound to warn the user for potential fever.
Power Off	Automatically shut down after 1 minute pending to extend battery life.	
Attentions	a. The device must stay in stable ambient (room) temperature for 30 minutes before operating. b. Before the measurement, please stay in a stable environment for 5mins and avoid the exercise, bath for 30mins. c. It is recommended that you measure the same ear for 3 times. If the 3 measurements are different, select the highest temperature. d. The thermometer has been designed for practical use. It's not meant to replace a visit to the doctor. Please also remember to compare the measurement result to your regular body temperature. Please consult with doctor if you have health concerns.	



Other Functions

Last Reading ⟲		After getting a new temperature reading, the last reading will be shown on the screen (at top right corner) with the ⟲ icon.
Memory Locations (25 sets) Ⓜ		When power on, Press the "ON/MEM" button to see the temperature records with Ⓜ icon.
°C / °F Switch		To change the LCD from °C to °F : In "***Power Off***" mode, press and hold the "SCAN" button, then press the "ON/MEM" button for 3 seconds, icon "**°C**" will be switched to icon "**°F**". You can also use the same process to change the LCD display from **°F** to **°C**.

Specifications

- ☑ Temperature measurement range: 34~42.2°C (93.2~108°F)
- ☑ Operating temperature range: 10~40°C (50~104°F)
- ☑ Storage temperature range: It should be stored at room temperature between -20~+50°C , RH≦85%
  Transportation temperature shall be less than 70°C, RH≦95%
- ☑ Comply with ASTM E1965-98, EN12470-5:2003 Clinical thermometers-Part 5:Performance of infra-red ear thermometers (with maximum device), IEC/EN60601-1-2(EMC), IEC/EN60601-1(Safety) standards.
- ☑ Accuracy: +/-0.2°C (0.4°F) within 35.5~42°C (95.9~107.6°F), +/-0.3°C (0.5°F) for other range.
- ☑ Fever alarm & Memory, °C / °F Switch function
- ☑ Battery: one lithium cell battery (CR2032 *1pcs). Battery life is estimated at 3,000 readings. Enable normal use: 1 year
- ☑ This thermometer converts the ear temperature to display its "oral equivalent."(according to the result of the clinical evaluation)
- ☑ E:LED Backlight (optional)
  LED Backlight will be automatically turned on after measurement, and automatically turned off after 5 seconds.

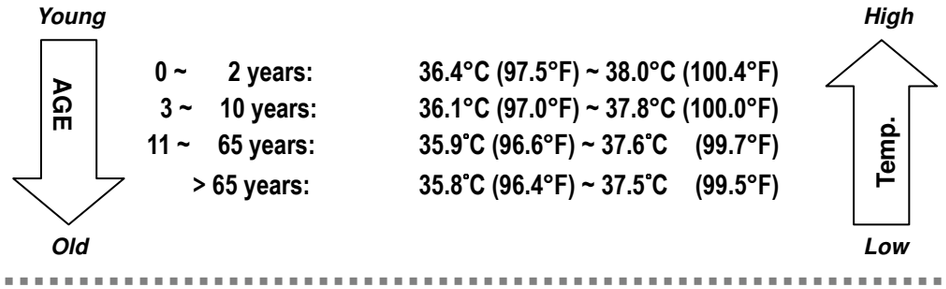
⚠ There is no gender and age limitation for using infrared thermometer.

⚠ This is not an AP or APG product.

Normal Body Temperature

Normal body temperature is a range that will fluctuate throughout the day. The normal range for adult body temperature is typically considered to be 36.1 to 37.8° C (97 to 100°F). The body temperature varies by age, person, gender, time of day, position of body, and is usually highest in the evening. It can be affected by activity, emotion, clothing, medications, ambient conditions, hormones and other factors. Normal temperature will also be different depending on the place on the body at which the temperature is taken, with rectal or ear temperature readings generally being higher than oral temperature readings, and armpit temperature readings generally lower than oral readings.

Temperature variations affected by age:



⚠ Clinical repeatability: 0.18℃ (< 1 year old), 0.17℃ (1~5years old), 0.15℃ (>5years old)

Important Notes

Cleaning And Storage

The probe is the most delicate part of the thermometer. Use with care when cleaning the lens to avoid damage.

**** Replace the probe cover after each use to ensure an accurate reading and avoid cross contamination.**

a. Storage temperature range: It should be stored at room temperature between -20~+50°C , RH≦85%

b. Transportation temperature shall be less than 70°C, RH≦95%

c. Keep the unit dry and away from any liquids and direct sunlight.

d. The Probe should not be submerged into liquids

**** If device is accidentally used without probe cover, clean the probe as follows:**

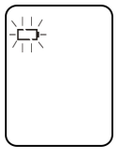
a. After the measurement, please use the cotton swab with the Alcohol (70% concentration) to clean the lens(on the inside of the probe).

b. Allow the probe to fully dry for at least 1 minute.

Note: Please check if the device is damaged once it drops. If you can't make sure of it, please send the complete device to your local dealer for recalibration.

⚠ Holding the thermometer too long may cause a higher ambient temperature reading of the probe. This could make the body temperature measurement lower than usual.

Battery Replacement



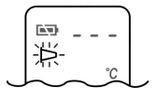
This device is supplied with one lithium cell CR2032x1.

1. Open the battery cover: Insert a pointed object into battery cover pick hole. At the same time, use thumb to push battery cover out.
2. Hold the device and flip the battery out with a small screwdriver.
3. Insert the new battery under the metal hook on the left side① and press the right side② of the battery down until you hear a "Click".
4. Replace the battery cover

⚠ Keep the battery away from children.

⚠ The positive (+) side up and the negative (-) side pointed down.

Trouble shooting

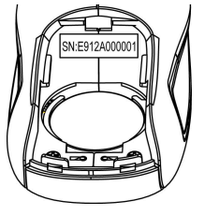
Error Message	Problem	Solution
	The probe cover has not been installed well	Please check the setting of the probe cover again. (Refer to the section of "Place the Probe Cover")
Er	Error 5~9, the system is not functioning properly.	Unload the battery, wait for 1 minute and repower it. If the message reappears, contact the retailer for service.
Er 1	Measurement before device stabilization.	Wait until all the icons stops flashing.
Er2	The device showing a rapid ambient temperature change.	Allow the thermometer to rest in a room for at least 30 minutes at room temperature: 10ºC and 40ºC (50ºF ~104ºF).
Er3	The ambient temperature is not within the range between 10ºC and 40ºC (50ºF ~104ºF).	
Hi	Temperature taken is higher than +42.2ºC (108°F)	Check the integrity of the probe cover and take a new temperature measurement.
Lo	Temperature taken is lower than +34ºC (93.2°F)	Make sure the probe cover is clean and take a new temperature measurement.
	Device cannot be powered on to the ready stage.	Change with a new battery.

Warranty

Warranty :12 months

Manufacture Date ： as the serial number(please open the battery cover, it is shown on the inside of the device.)

Ex.SN:E912A000001, the first "E" is External, the second number "9" is the manufacture year 2009, the third and the fourth number "12" is the manufacture month, the others is the serial number.



Note: The thermometer is calibrated at the time of manufacture. If at any time you question the accuracy of temperature measurements, please contact the dealers or nearest service address.

Please read the instructions for use **BF type applied part**

Portable and mobile RF communication equipment can affect medical electrical equipment such as this product.

This device complies with

CISPR 11 group 1, Class B. During measurement it is recommended to keep at least 1.5 meter separation between this device and the surrounding electrical devices. If interference occurs, please increase the separation further or turn off the electrical equipment in the vicinity. For detailed description regarding the EMC precautions you need to take, please contact our authorized representative or us on address as given below.

Radiant Innovation Inc. Http://www.radiantek.com.tw
Add: 1F, No.3, Industrial East 9th Road, Science-Based Industrial Park, HsinChu, Taiwan 300.

EC REP Medical Technology Promedt Consulting GmbH
Add: Altenhofstrasse 80, D-66386 St. Ingbert, Germany

0120 Ref No. : 082012

Symbol Descriptions					
CE 0120	The CE mark and Notified Body Registration Numbers, the requirement of Annex II from Medical Device Directive 93/42/EEC are met.		Indicates this device is subject to the Waste Electrical and Electronic. Equipment Directive in the European Union. To protect the environment, dispose of useless device at appropriate collection sites according to national or local regulations.		Do not reuse
	Caution		Please read the instructions for use		Paper Recycling
	Manufacturer		BF type applied part		Battery Recycling
EC REP	Authorized representative in the European community				

Guidance and manufacturer's declaration – electromagnetic emissions

The TH7xy series is intended for use in the electromagnetic environment specified below. The customer or the user of the TH7xy series should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The TH7xy series uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The TH7xy series is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Not applicable	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

Guidance and manufacturer's declaration – electromagnetic immunity

The TH7xy series is intended for use in the electromagnetic environment specified below. The customer or the user of the TH7xy series should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	Not applicable	Portable and mobile RF communications equipment should be used no closer to any part of the TH7xy series, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. **Recommended separation distance** $d = 1{,}2\ \sqrt{P}$ $d = 1{,}2\ \sqrt{P}$ 80 MHz to 800 MHz $d = 2{,}3\ \sqrt{P}$ 800 MHz to 2,5 GHz
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 V/m	where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, a should be less than the compliance level in each frequency range b. Interference may occur in the vicinity of equipment marked with the following symbol:

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the TH7xy series is used exceeds the applicable RF compliance level above, the TH7xy series should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the TH7xy series.
b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.

Guidance and manufacturer's declaration – electromagnetic immunity

The TH7xy series is intended for use in the electromagnetic environment specified below. The customer or the user of the TH7xy series should assure that it is used in such an environment.

Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	6 kV contact 8 kV air	6 kV contact 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	**2 kV for power supply lines 1 kV for input/output lines**	**Not applicable**	**Mains power quality should be that of a typical commercial or hospital environment.**
Surge IEC 61000-4-5	**1 kV line(s) to line(s) 2 kV line(s) to earth**	**Not applicable**	**Mains power quality should be that of a typical commercial or hospital environment.**
interruptions and voltage variations on power supply input lines IEC 61000-4-11	**<5 % UT (>95 % dip in UT) for 0,5 cycle** **40 % UT (60 % dip in UT) for 5 cycles** **70 % UT (30 % dip in UT) for 25 cycles** **<5 % UT (>95 % dip in UT) for 5 sec**	**Not applicable**	**Mains power quality should be that of a typical commercial or hospital environment. If the user of the TH7xy series requires continued operation during power mains interruptions, it is recommended that the TH7xy series be powered from an uninterruptible power supply or a battery.**
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	**3 A/m**	**3 A/m**	**Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.**

NOTE UT is the a.c. mains voltage prior to application of the test level.

Recommended separation distances between portable and mobile RF communications equipment and the ME EQUIPMENT or ME SYSTEM

The TH7xy series is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the TH7xy series can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the TH7xy series as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1{,}2\ \sqrt{P}$	80 MHz to 800 MHz $d = 1{,}2\ \sqrt{P}$	800 MHz to 2,5 GHz $d = 2{,}3\ \sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.
NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.
NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.